APPLICATION FOR OSHPD SPECIAL SEISMIC CERTIFICATION PREAPPROVAL (OSP)

OFFICE USE ONLY	
APPLICATION #:	OSP – 0070

OSHPD Special Seismic Certification Preapproval (OSP)

Type: ☐ New ☒ Renewal

Manufacturer Information

Manufacturer: ASCO Power Technologies, LP

Manufacturer's Technical Representative: Adam Seid, Director, Project Management

Mailing Address: 160 Park Ave, Florham Park, NJ 07932

Telephone: 973-966-2154 Email: Adam.Seid@ascopower.com

Product Information

Product Name: Power Control Systems (PCS)

Product Type: Electrical Switchgear

Product Model Number: PCS Product Series, 4000 & 7000 with Overhead Lifting Trolley
(List all unique product identification numbers and/or part numbers)

General Description: Low Voltage Switchgear Systems with Square D Circuit Breakers. Seismic enhancements made to the test units shall be incorporated into the production units.

Mounting Description: Rigid Floor Mounted

Applicant Information

Applicant Company Name: The VMC Group

Contact Person: John P. Giuliano, PE

Mailing Address: 113 Main Street, Bloomingdale, NJ 07403

Telephone: 973-838-1780 Email: john.giuliano@thevmcgroup.com

I hereby agree to reimburse the Office of Statewide Health Planning and Development review fees in accordance with the California Administrative Code, 2016.

Signature of Applicant: Date: 6/12/19

Title: President Company Name: The VMC Group

REVIEWED FOR CODE COMPLIANCE OSHPD OSP-0070 Dorothy J Piland DATE: 03/17/2020 CALIFORNIA BUILDING CODE, 2019

California Licensed Structural Engineer Responsible for the Engineering and Test Report(s)

Company Name: The VMC Group

Name: Mr. Kenneth Tarlow California License Number: SE2851

Mailing Address: 980 9th Street, 16th Floor, Sacramento, CA 95814

Telephone: (916) 449-9918 Email: ken.tarlow@thevmcgroup.com

Supports and Attachments Preapproval

☐ Supports and attachments are preapproved under OPM- _____
(Separate application for OSHPD Preapproval of Manufacturer's Certification (OPM) of Supports and attachments is required)

☒ Supports and attachments are not preapproved

Certification Method

☒ Testing in accordance with: ☒ ICC-ES AC156

☐ Other (Please Specify): _____

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OSP-0070
BY: Timothy J Piland
DATE: 03/17/2020
CALIFORNIA BUILDING CODE, 2019

Testing Laboratory

Company Name: Trentec

Contact Name: Timothy A. Geers

Mailing Address: 4600 East Tech Dr., Cincinnati, OH 45245

Telephone: (513) 528-7900 Email: tgeers@curtisswright.com

Testing Laboratory

Company Name: UC Berkeley PEER

Contact Name: Wesley Neighbour

Mailing Address: 1301 South 46th Street, Building 420, Richmond, CA 94804

Telephone: (510) 665-3409 Email: wdn@berkeley.com

Seismic Parameters

Design in accordance with ASCE 7-10 Chapter 13: ☒ Yes ☐ No

Design Basis of Equipment or Components (F_p/W_p) = 1.50 (z/h = 1); 1.11 (z/h = 0)

S_{DS} (Design spectral response acceleration at short period, g) = 2.00 (z/h = 1); 2.46 (z/h = 0)

a_p (In-structure equipment or component amplification factor) = 2.5

R_p (Equipment or component response modification factor) = 6.0

Ω_0 (System overstrength factor) = 2.0

I_p (Importance factor) = 1.5

z/h (Height factor ratio) = 1 and 0

Equipment or Component Natural Frequencies (Hz) = See UUT Summary Tables

Overall dimensions and weight (or range thereof) = See Certified Tables 1A and 1B

Equipment or Components @ grade designed in accordance with ASCE 7-10 Chapter 15: ☐ Yes ☒ No

Design Basis of Equipment or Components (V/W) =

S_{DS} (Design spectral response acceleration at short period, g) =

S_{D1} (Design spectral response acceleration at 1 second period, g) =

R (Response modification coefficient) =

Ω_0 (System overstrength factor) =

C_d (Deflection amplification factor) =

I_p (Importance factor) = 1.5

Height to Center of Gravity above base =

Equipment or Component Natural Frequencies (Hz) =

Overall dimensions and weight (or range thereof) =

Tank(s) designed in accordance with ASME BPVC, 2015: ☐ Yes ☒ No

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List of Attachments Supporting Special Seismic Certification

☒ Test Report(s) ☐ Drawings ☐ Calculations ☒ Manufacturer's Catalog

☐ Other(s) (Please Specify):

OSHPD Approval (For Office Use Only) – Approval Expires on December 31, 2025

Signature: Date: March 17, 2020

Print Name: Timothy J. Piland Title: SSE

Special Seismic Certification Valid Up to: S_{DS} (g) = See Above z/h = See Above

Condition of Approval (if applicable):

Table 1A - Certified Low Voltage Switchgear Systems (NEMA Type 1)

Model Number[4]	Main Bus Rating [Amps]	Breaker Rating [Amps]	NEMA Rating	Enclosure Dimensions [in]			Max System Weight [lbs]	UUT
				Max Height[7]	Max Width	Max Depth		
0H-C/C/C/C	**N/A**	**N/A**	**TYPE 1**	**94.0**	**36.0**	**24.0**	**1,068**	**UUT-2**
0H-C/C/C/C	N/A	N/A	TYPE 1	94.0	36.0	30.0	1,089	Interpolated
0H-C/C/C/C	0 - 10,000	N/A	TYPE 1	94.0	36.0	84.0	1,713	Interpolated
6H-B/B/B/B/B/B-3P	3,000 - 10,000	250 - 1200	TYPE 1	94.0	40.0	84.0	2,991	Interpolated
2H-B/C/C/B-3P	**6,000**	**(2) 800**	**TYPE 1**	**94.0**	**26.0**	**72.0**	**3,000**	**UUT-1a**
1H-B/S/C/S-3P	2,000 - 10,000	800 - 3,200	TYPE 1	94.0	40.0	84.0	3,345	Interpolated
1H-B/S/C/S-4P	2,000 - 10,000	800 - 3,200	TYPE 1	94.0	40.0	84.0	3,627	Interpolated
1H-B/C/C/C-3P	2,000 - 10,000	800 - 3,200	TYPE 1	94.0	40.0	84.0	3,704	Interpolated
2H-B/B/C/S-3P	2,000 - 10,000	800 - 3,200	TYPE 1	94.0	40.0	84.0	3,733	Interpolated
3H-B/B/B/C-3P	3,000 - 10,000	800 - 3,200	TYPE 1	94.0	40.0	84.0	3,746	Interpolated
3H-B/B/C/B-3P	3,000 - 10,000	800 - 3,200	TYPE 1	94.0	40.0	84.0	3,746	Interpolated
4H-B/B/B/B-3P	3,000 - 10,000	800 - 2,000	TYPE 1	94.0	40.0	84.0	3,837	Interpolated
1H-B/X/C/C-3P	2,000 - 10,000	800 - 5,000	TYPE 1	94.0	40.0	84.0	3,941	Interpolated
1H-B/C/C/C-4P	2,000 - 10,000	800 - 3,200	TYPE 1	94.0	40.0	84.0	3,987	Interpolated
1H-B/X/C/C-3P	**6,000**	**5,000**	**TYPE 1**	**94.0**	**40.0**	**84.0**	**4,000**	**UUT-3[5]**
4H-B/B/B/B-3P	**10,000**	**(4) 800**	**TYPE 1**	**94.0**	**26.0**	**84.0**	**4,000**	**UUT-3[5]**
1H-S/B/C/C-3P	2,000 - 10,000	6,000	TYPE 1	94.0	40.0	84.0	4,006	Interpolated
2H-B/C/B/S-3P	2,000 - 10,000	800 - 3,200	TYPE 1	94.0	40.0	84.0	4,123	Interpolated
2H-B/B/C/S-4P	2,000 - 10,000	800 - 3,200	TYPE 1	94.0	40.0	84.0	4,152	Interpolated
3H-B/B/B/C-4P	3,000 - 10,000	800 - 3,200	TYPE 1	94.0	40.0	84.0	4,201	Interpolated
3H-B/B/C/B-4P	3,000 - 10,000	800 - 3,200	TYPE 1	94.0	40.0	84.0	4,201	Interpolated
1H-B/X/C/C-4P	2,000 - 10,000	800 - 5,000	TYPE 1	94.0	46.0	84.0	4,275	Interpolated
2H-B/C/C/B-3P	2,000 - 10,000	800 - 4,000	TYPE 1	94.0	40.0	84.0	4,322	Interpolated
4H-B/B/B/B-4P	3,000 - 10,000	800 - 2,000	TYPE 1	94.0	40.0	84.0	4,385	Interpolated
1H-S/B/C/C-4P	2,000 - 10,000	6,000	TYPE 1	94.0	46.0	84.0	4,497	Interpolated
2H-B/C/B/S-4P	2,000 - 10,000	800 - 3,200	TYPE 1	94.0	40.0	84.0	4,687	Interpolated
2H-B/C/C/B-3P	**10,000**	**(2) 4,000**	**TYPE 1**	**94.0**	**36.0**	**84.0**	**4,800**	**UUT-1b**
2H-B/C/C/B-4P	2,000 - 10,000	800 - 4,000	TYPE 1	94.0	46.0	84.0	4,879	Extrapolated

FLORIDA BUILDING CODE COMPLIANCE
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Timothy Piland
DATE 03/17/2020
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Notes:

1. NEMA Type 1 (0-10,000 Amp range) section cubicles are constructed of 11 gauge Carbon Steel by ASCO.
2. The NEMA Type 3R gear is constructed using a cubicle section from Table 1A (Nema Type 1, Max. 36"W x 72"Deep, Max. 6000A Main Bus rating and 800-5000A Circuit
3. NEMA Type 3R (0-6,000 Amp range) section cubicles are constructed of 11 gauge Carbon Steel by ASCO.
4. Model Descriptors:
   B = Compartment that is designated only for the Circuit Breaker
   C = Compartment that is designated only for Controls
   X = A Circuit Breaker compartment that is taller than standard height due to extra ventilation require
   S = Compartment that is designated as empty (no Circuit Breaker or Controls)
   H = Qty. of Breakers
5. UUT-3 consists 2 cabinets, 1H-B/X/C/C-3P and 4H-B/B/B/B-3P
6. The maximum tested system weight is 4,800 lbs.
7. The listed height is 3" larger due to a control wireway ontop of the cabinet which was not included in the measuring of the units in the test report.

Table 1B - Certified Low Voltage Switchgear Systems (NEMA Type 3R)

Model Number[4]	Main Bus Rating [Amps]	Breaker Rating [Amps]	NEMA Rating	Enclosure Dimensions [in]			Max System Weight [lbs]	UUT
				Max Height	Max Width	Max Depth		
0H-C/C/C/C	0 - 6,000	N/A	TYPE 3R	101.5	40.0	84.0	2,618	Interpolated
6H-B/B/B/B/B/B-3P	**6,000**	**(6) 1200**	**TYPE 3R**	**101.5**	**40.0**	**84.0**	**3,700**	**UUT-4**
1H-B/S/C/S-3P	2,000 - 6,000	800 - 3,200	TYPE 3R	101.5	40.0	84.0	4,203	Interpolated
1H-B/S/C/S-4P	2,000 - 6,000	800 - 3,200	TYPE 3R	101.5	40.0	84.0	4,473	Interpolated
2H-B/B/C/S-3P	2,000 - 6,000	800 - 3,200	TYPE 3R	101.5	40.0	84.0	4,544	Interpolated
2H-B/C/B/S-3P	2,000 - 6,000	800 - 3,200	TYPE 3R	101.5	40.0	84.0	4,544	Interpolated
3H-B/B/B/C-3P	3,000 - 6,000	800 - 3,200	TYPE 3R	101.5	40.0	84.0	4,552	Interpolated
3H-B/B/C/B-3P	3,000 - 6,000	800 - 3,200	TYPE 3R	101.5	40.0	84.0	4,552	Interpolated
1H-B/C/C/C-3P	2,000 - 6,000	800 - 3,200	TYPE 3R	101.5	40.0	84.0	4,583	Interpolated
4H-B/B/B/B-3P	3,000 - 6,000	800 - 2,000	TYPE 3R	101.5	40.0	84.0	4,638	Interpolated
1H-B/X/C/C-3P	2,000 - 6,000	800 - 5,000	TYPE 3R	101.5	40.0	84.0	4,750	Interpolated
1H-B/C/C/C-4P	2,000 - 6,000	800 - 3,200	TYPE 3R	101.5	40.0	84.0	4,860	Extrapolated

Notes:

1. NEMA Type 1 (0-10,000 Amp range) section cubicles are constructed of 11 gauge Carbon Steel by ASCO.
2. The NEMA Type 3R gear is constructed using a cubicle section from Table 1A (Nema Type 1, Max. 36"W x 72"Deep, Max. 6000A Main Bus rating and 800-5000A Circuit
3. NEMA Type 3R (0-6,000 Amp range) section cubicles are constructed of 11 gauge Carbon Steel by ASCO.
4. Model Descriptors:
   B = Compartment that is designated only for the Circuit Breaker
   C = Compartment that is designated only for Controls
   X = A Circuit Breaker compartment that is taller than standard height due to extra ventilation require
   S = Compartment that is designated as empty (no Circuit Breaker or Controls)
   H = Qty. of Breakers
5. UUT-3 consists 2 cabinets, 1H-B/X/C/C-3P and 4H-B/B/B/B-3P
6. The maximum tested system weight is 4,800 lbs.
7. The listed height is 3" larger due to a control wireway ontop of the cabinet which was not included in the measuring of the units in the test report.

ACCEPTED CODE COMPLIANCE
OSP-0070
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Table 2 - Certified Subcomponents: Breakers

Part Number	Rating [Amps]	Weight [lbs]	Manufacturer	UUT
P-FRAMEG/J/K/L	1,200	31	Square D	UUT-4
NW08N/L/H	800	223	Square D	UUT-1a, UUT-3
NW12N/L/H	1,200	223	Square D	Interpolated
NW16N/L/H	1,600	223	Square D	Interpolated
NW20N/L/H	2,000	223	Square D	Interpolated
NW08L1/H1-H3	800	223	Square D	Interpolated
NW16L1/H1-H3	1,600	223	Square D	Interpolated
NW25L/H	2,500	277	Square D	Interpolated
NW30L/H	3,000	277	Square D	Interpolated
NW20L1/H1-H3	2,000	351	Square D	Interpolated
NW40L/H	4,000	557	Square D	UUT-1b
NW50L/H	5,000	557	Square D	UUT-3
NW32L1/H1-H3	3,200	557	Square D	Extrapolated
NW40L1/H1-H3	4,000	557	Square D	Extrapolated
NW50L1/H2/H3	5,000	557	Square D	Extrapolated

Table 3 - Certified Subcomponents: Transformers

Part Number	Description	Weight [lbs]	Manufacturer	UUT
20XSUM3	Summing Transformer	3	ITI	UUT-2
19SHT	CT / 600 V 300:5 to 3000:5	3	ITI	UUT-1a
568T	CT / 600 V 400:5/1 to 5000:5/1	4	ITI	UUT-1b
561	CT / 600 V 150:5 to 4000:5	8	ITI	Interpolated
135	CT / 600 V 150:5 to 5000:5	18	ITI	UUT-1b
142	CT / 600 V 400:5 to 6000:5	31	ITI	UUT-3
3VTN460277FF	Potential Transformer	23	ITI	UUT-3
CG0500480120F	Potential Transformer, Fuse	15	Square D	UUT-1a, UUT-1b, UUT-3
S33579	Neut Current Transformer	7	Square D	Extrapolated
S34036	Neut Current Transformer	25	Square D	UUT-1a, UUT-1b, UUT-3
S48182	Neut Current Transformer	25	Square D	UUT-1a, UUT-1b, UUT-3
S48897	Neut Current Transformer	50	Square D	UUT-1b, UUT-3

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Table 4 - Certified Subcomponents: Meters

Part Number	Description	Weight [lbs]	Manufacturer	UUT
629269-001	Power Manager	9	ASCO	UUT-1a, UUT-3

Table 5 - Certified Subcomponents: Power Supplies

Part Number	Description	Weight [lbs]	Manufacturer	UUT
VIM13CW03	DC/DC Convertor	2	Vicor	Extrapolated
VIMBW301	DC/DC Convertor	2	Vicor	UUT-2, UUT-3
VIMW301	DC/DC Convertor	2	Vicor	UUT-1a, UUT-2, UUT-3

Table 6 - Certified Subcomponents: Relays / Controllers

Part Number	Weight [lbs]	Manufacturer	UUT
267566	<1	ASCO	UUT-1a, UUT-2, UUT-3
246955540AHD0	2	Yokogawa	UUT-2
253PHDUNWBX	2	Crompton	UUT-2
253PVBU	2	Crompton	UUT-2
9907-175	4	Woodward	UUT-3
BE3251A1N5	3	BASLER	UUT-2
CAD50BD	2	Telemecanique	UUT-1a, UUT-3
LADN04	<1	Telemecanique	UUT-1a, UUT-3
RH1BUDC24V	<1	IDEC	UUT-2
RH2BULDC24V	<1	IDEC	UUT-1a, UUT-2, UUT-3
RH4BULDDC24V	<1	IDEC	Interpolated
SH1B05	<1	IDEC	UUT-2
SH2B05	<1	IDEC	UUT-2, UUT-3
SH4B05	<1	IDEC	Interpolated
SY2S02F1	<1	IDEC	UUT-2
SY4S02F1	<1	IDEC	UUT-1a, UUT-2, UUT-3

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Table 7 - Certified Subcomponents: Controllers & Controller Components

Part Number	Weight [lbs]	Manufacturer	UUT
HE200ACM530-17	2	Horner Automation Group	UUT-1a, UUT-3
HE200CGM750-17	2	Horner Automation Group	UUT-1b
HE800DIM310-17	2	Horner Automation Group	UUT-1a, UUT-3
HE800DQM306-17	2	Horner Automation Group	UUT-1a, UUT-3
HE800ETN250-17	2	Horner Automation Group	UUT-1a, UUT-3
HE800GCM911	2	Horner Automation Group	UUT-1a, UUT-3
HE800RCS250-17	2	Horner Automation Group	UUT-1a, UUT-3
IC200CHS022	<1	GE	UUT-1b
IC200ALG230	<1	GE	Interpolated
IC200CPUE05	<1	GE	Interpolated
IC200GBI001	<1	GE	UUT-1b
IC200MDD844	<1	GE	UUT-1b
IC200MDL650	<1	GE	Interpolated
IC200MDL750	<1	GE	Interpolated
IC200PWR001	<1	GE	UUT-1b
IC200PWR002	<1	GE	Interpolated
IC693BEM331	<1	GE	UUT-1b
IC693CPU372	<1	GE	UUT-1b
IC693PWR331	<1	GE	UUT-1b
IC695ACC302	<1	GE	Interpolated
IC695ETM001	<1	GE	Interpolated
IC695PSD140	<1	GE	Interpolated
IC695CPE400	<1	GE	Interpolated
IC695ACC403	<1	GE	Interpolated
IC200CPUE05	<1	GE	Interpolated
IC695CPU315	2	GE	Interpolated
IC693CHS397	2	GE	**UUT-1b**
IC695CHS007	3	GE	Extrapolated

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Table 8 - Certified Subcomponents: Switches

Part Number	Description	Weight [lbs]	Manufacturer	UUT
629800-004	Ethernet Comm. Module,72E	1	ASCO	UUT-1a, UUT-2, UUT-3
MESR901	Converter, Modbus Gateway	<1	B&B	UUT-2
985436	10A	<1	CHINT	UUT-1a, UUT-2, UUT-3
985437	10A	<1	CHINT	UUT-1a, UUT-3
985438	16A	<1	CHINT	UUT-1a, UUT-1b, UUT-2
985451	20A	<1	CHINT	UUT-2
985230	20A	<1	CHINT	Extrapolated
985439	25A	<1	CHINT	Extrapolated
CHM1D	Fuse Holder With Built-In Puller	<1	Bussman	UUT-1a, UUT-2, UUT-3
943987001	Ethernet Router,2 Port,24VDC	<1	Hirschcmann	UUT-2
2642D17077	CB Control	2	Shallco	UUT-1b
CA10A231600FT1	SEL SW,4 POS	<1	Kraus and Naimer	UUT-1a, UUT-3
CA10A232600FT1	SEL SW,5 POS	<1	Kraus and Naimer	UUT-1a, UUT-3
CA10A252600FT1	SEL SW,American Solenoid,5	<1	Kraus and Naimer	UUT-1a, UUT-3
EDS205	Ethernet Switch,5	<1	MOXA	UUT-1a, UUT-3
EDS308	Ethernet Switch,8	1.4	MOXA	Interpolated
EDS316	Ethernet Switch,16	2.5	MOXA	Interpolated
EDS316MMST	Ethernet Switch,16	2.5	MOXA	UUT-1a, UUT-3

Table 9 - Certified Subcomponents: Displays & Interface Monitors

Part Number	Description	Weight [lbs]	Manufacturer	UUT
HEQX651-16	12.1" LCD Display	6	Horner Automation Group	UUT-2

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UNIT UNDER TEST (UUT)
Summary Sheet

UUT-1a

Q0007.0; Q0007-01-01-01

Model Line	Model Number	Manufacturer
Low Voltage Switchgear Systems	2H-B/C/C/B-3P	ASCO

Product Construction Summary

Rigid floor mounted, 11 GA carbon steel, painted, NEMA Type 1

Options / Subcomponent Summary

Breaker: NW08N/L/H ; Transformer: 19SHT, CG0500480120F, S34036, and S48182; Meter: 629269-001;
Power Supply: VIMW301; Relay: 267566, CAD50BD, LADN04, RH2BULDC24V, SY4S02F1; Controller: HE200ACM530-17, HE800ACM310-17, HE800DQM306-17, HE800ETN250-17, HE800GCM911, HE800RCS250-17; Switch: 985436, 985437, 985438, CHM1D, 629800-004, CA10A231600FT1, CA10A232600FT1, CA10A252600FT1, EDS205, EDS316MMST

UUT Properties

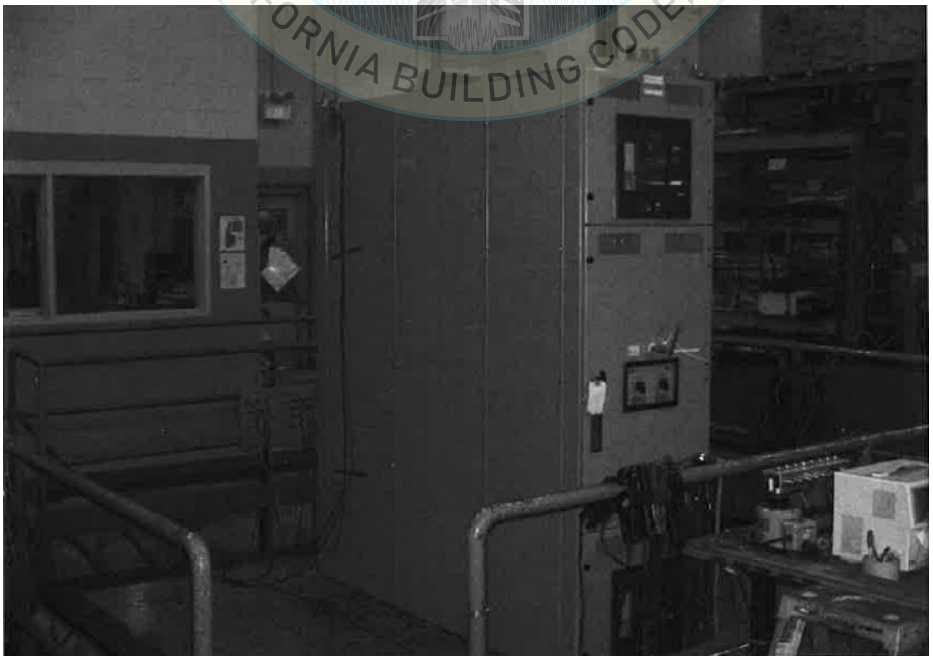
Weight [lbs]	Dimensions [in]			Lowest Nat. Freq. [Hz]		
	Length	Width	Height	F-B	S-S	V
3000	72	26	91	4.7	15	15

UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S_{DS}	z/h	I_P	A_{FLX-H}	A_{RIG-H}	A_{FLX-V}	A_{RIG-V}
CBC 2016	ICC-ES AC156	2.46	1.0	1.5	3.94	2.95	1.64	0.66

Test Mounting Details

UUT-1a was floor-mounted onto the Shake table surface using six (6) 1/2" Grade 5 bolts using the unit's mounting hole provisions.



All units were filled with contents and maintained structural integrity and functionality after AC-156 test.

REVIEWED FOR CODE COMPLIANCE OSHPD OSP-0070 BY: Timothy J Piland DATE: 03/17/2020 CALIFORNIA BUILDING CODE, 2019

UNIT UNDER TEST (UUT)
Summary Sheet

UUT-1b

Q0007.0; Q0007-02-01-01

Model Line	Model Number	Manufacturer
Low Voltage Switchgear Systems	2H-B/C/C/B-3P	ASCO

Product Construction Summary

Rigid floor mounted, 11 GA carbon steel, painted, NEMA Type 1

Options / Subcomponent Summary

Breaker: VW40L/H; Transformer: 568T, 135, CG0500480120F, S34036, S48182, S48897; Controller: HE200CGM750-17, IC200CHS022, IC200GB1001, IC200MDD844, IC200PWR001, IC693BEM331, IC693CHS397, IC693CPU372, IC693PWR331; Switch: 985438, 2642D17077,

UUT Properties

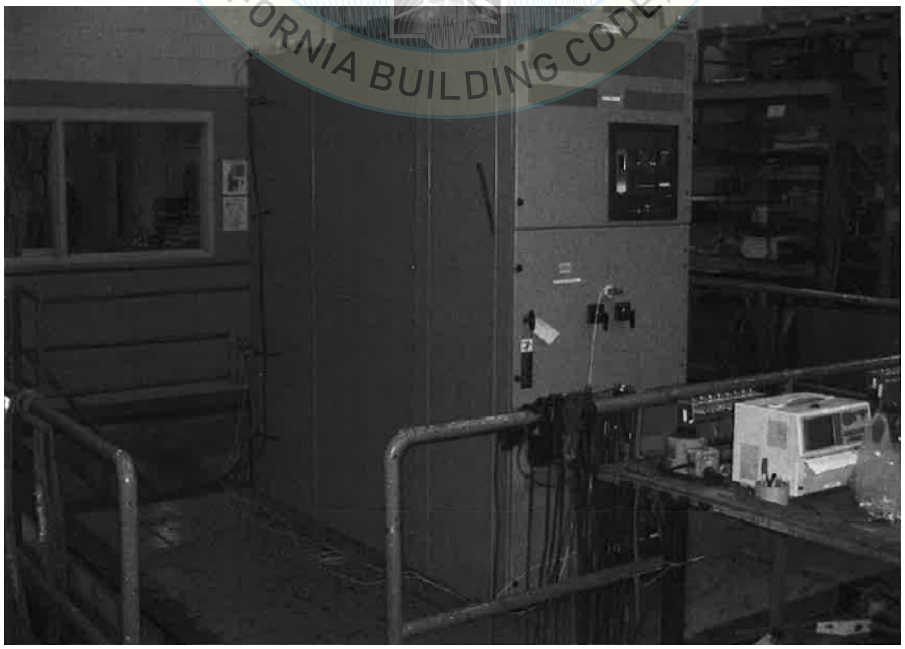
Weight [lbs]	Dimensions [in]			Lowest Nat. Freq. [Hz]		
	Length	Width	Height	F-B	S-S	V
4800	84	36	91	5.5	12	24

UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S_{DS}	z/h	I_P	A_{FLX-H}	A_{RIG-H}	A_{FLX-V}	A_{RIG-V}
CBC 2016	ICC-ES AC156	2.46	1.0	1.5	3.94	2.95	1.64	0.66

Test Mounting Details

UUT-1b was floor-mounted onto the Shake table surface using six (6) 1/2" Grade 5 bolts using the unit's mounting hole provisions.



All units were filled with contents and maintained structural integrity and functionality after AC-156 test.

REVIEWED FOR CODE COMPLIANCE OSHPD OSP-0070 BY: Timothy J Piland DATE: 03/17/2020 CALIFORNIA BUILDING CODE, 2019

UNIT UNDER TEST (UUT)
Summary Sheet

UUT-2

Q0007.0; Q0007-03-01-01

Model Line	Model Number	Manufacturer
Segregated Control Systems	0H-C/C/C/C	ASCO

Product Construction Summary

Rigid floor mounted, 11 GA carbon steel, painted, NEMA Type 1

Options / Subcomponent Summary

Transformer: 20XSUM3; Power Supply: VIMBW301, VIMW301; Relay: 267566, 246955540AHD0, 253PHDUNWBX, 253PVBU, BE3251A1N5, RH1BUDC24V, RH2BULDC24V, SH1B05, SY2S02F1, SY4S02F1; Switch: 985436, 985438, 985451, CHM1D, 943987001, 629800-004, MESR901; Display & Interface Monitor: HEQX651-16

UUT Properties

Weight [lbs]	Dimensions [in]			Lowest Nat. Freq. [Hz]		
	Length	Width	Height	F-B	S-S	V
500	24	26	91	8.2	14	8.4

UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S_{DS}	z/h	I_P	A_{FLX-H}	A_{RIG-H}	A_{FLX-V}	A_{RIG-V}
CBC 2016	ICC-ES AC156	2.46	1.0	1.5	3.94	2.95	1.64	0.66

Test Mounting Details

UUT-2 was floor-mounted onto the Shake table surface using four (4) 1/2" Grade 5 bolts using the unit's mounting hole provisions.



All units were filled with contents and maintained structural integrity and functionality after AC-156 test.

REVIEWED FOR CODE COMPLIANCE OSHPD OSP-0070 BY: Timothy J Piland DATE: 03/17/2020 CALIFORNIA BUILDING CODE, 2019

UNIT UNDER TEST (UUT)
Summary Sheet

UUT-3

Q0007.0; Q0007-04-01-01

Model Line	Model Number	Manufacturer
Low Voltage Switchgear Systems	4H-B/B/B/B-3P & 1H-B/X/C/C-3P	ASCO

Product Construction Summary

Rigid floor mounted, 11 GA carbon steel, painted, NEMA Type 1

Options / Subcomponent Summary

Breaker: NW08N/L/H, NW50L/H; Transformer: 142, 3VTN460277FF, CG0500480120F, S34036, S48182, S48897; Meter: 629269-001; Power Supply: VIMBW301, VIMW301; Relay: 267566, CAD50BD, LADN04, RH2BULDC24V, SH2B05, SY4S02F1; Controller: HE200ACM530-17, HE800DIM310-17, HE800DQM306-17, HE800ETN250-17, HE800GCM911, HE800RCS250-17; Switch: 985436, 985437, CHM1D, 629800-004, CA10A231600FT1, CA10A232600FT1, CA10A252600FT1, EDS205, EDS316MMST

UUT Properties

Weight [lbs]	Dimensions [in]			Lowest Nat. Freq. [Hz]		
	Length	Width	Height	F-B	S-S	V
8000	84	66	110	4.7	2.5	28

UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S_{DS}	z/h	I_P	A_{FLX-H}	A_{RIG-H}	A_{FLX-V}	A_{RIG-V}
CBC 2016	ICC-ES AC156	2.46	1.0	1.5	3.94	2.95	1.64	0.66

Test Mounting Details

UUT-3 was floor-mounted onto the Shake table surface using twelve(12) 1/2" Grade 5 bolts using the unit's mounting hole provisions.



All units were filled with contents and maintained structural integrity and functionality after AC-156 test.

REVIEWED FOR CODE COMPLIANCE OSHPD OSP-0070 BY: Timothy J Piland DATE: 03/17/2020 CALIFORNIA BUILDING CODE, 2019

UNIT UNDER TEST (UUT)
Summary Sheet

UUT-4

STI/2014-09; UUT1

Model Line	Model Number	Manufacturer
Low Voltage Switchgear Systems	6H-B/B/B/B/B/B-3P	ASCO

Product Construction Summary

Rigid floor mounted, 11 GA carbon steel, painted, NEMA Type 3R

Options / Subcomponent Summary

Breaker: P-FRAMEG/J/K/L

UUT Properties

Weight [lbs]	Dimensions [in]			Lowest Nat. Freq. [Hz]		
	Length	Width	Height	F-B	S-S	V
3700	84	40	101	4.7	14.6	18.7

UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S_{DS}	z/h	I_P	A_{FLX-H}	A_{RIG-H}	A_{FLX-V}	A_{RIG-V}
CBC 2016	ICC-ES AC156	2.0	1.0	1.5	3.20	2.40	1.34	0.54
		2.5	0.0	1.5	2.50	1.00	1.68	0.68

Test Mounting Details

UUT-4 was floor-mounted onto the Shake table surface using six (6) 1/2" Grade 8 bolts using the unit's mounting hole provisions.



All units were filled with contents and maintained structural integrity and functionality after AC-156 test.

REVIEWED FOR CODE COMPLIANCE OSHPD OSP-0070 BY: Timothy J Piland DATE 03/17/2020 CALIFORNIA BUILDING CODE, 2019